SERVICE MANUAL

CASSETTE RECORDER

SANYO

M9924LU

(EUROPE)

SPECIFICATIONS

Recording system	AC bias, 4 tracks stereo
Erasing system	DC erase (multi gap)
Rewind and fast forward time	Rewind: 1min. 40 sec. (C–60) Fast forward: 3 min. 40 sec. (C–60)
Frequency range	FM: 87.5 – 108MHz SW: 5.95 – 18MHz MW: 525 – 1,605kHz LW: 150 – 285kHz
Terminal impedance	EXT. MIC: 10k ohms (1mV) REC/PB: (input) 10k ohms (1mV) (output) 1k ohms (0.33V) EXT. SP: 6 – 8 ohms HEADPHONES: 8 ohms
Output power	3W x 2 maximum (music power)
Power source	DC: 9V "D" (UM–1) x 6 AC: 115/230V, 50Hz
Dimensions	17-1/8"(W) x 4-3/4"(D) x 10-3/16"(H) (434 x 120 x 259 mm)
Weight	Approx. 9 lbs. 11 ozs. (4.4kg) including batteries

* Specifications subject to change without notice.

DISASSEMBLY OF CABINET & CHASSIS

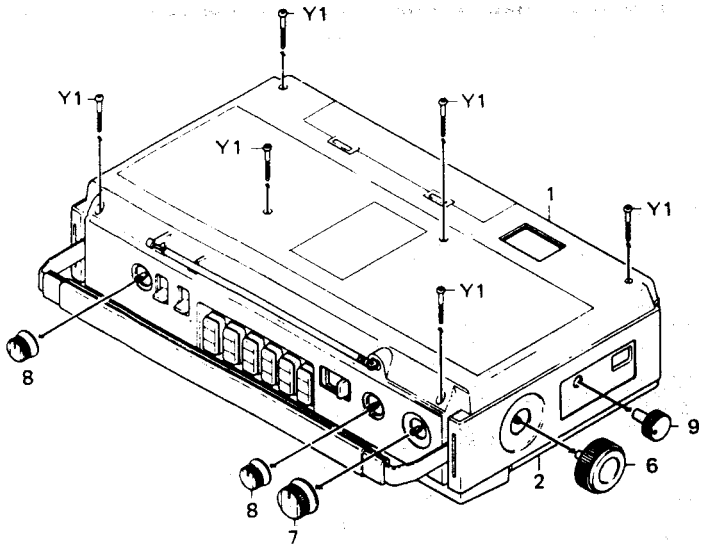
over the work table with cushioning pad for protecting the unit being erviced. Be sure to unplug the power cord and take out batteries efore proceeding to the steps described below.

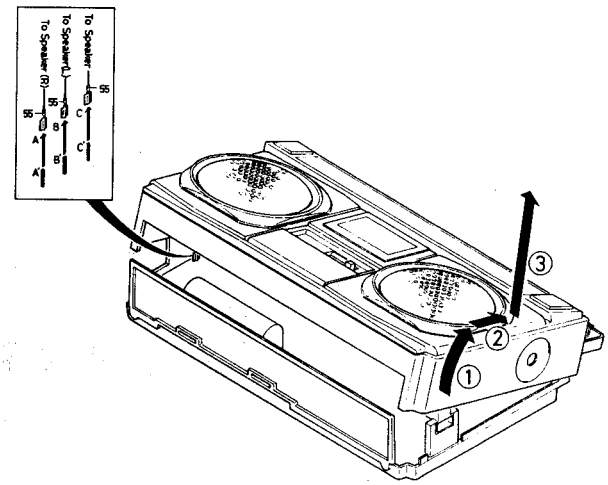
. Remove the four knobs (Tuning (6), Volume (7), Balance (8), Tone (8), Fine Tuning (9)).

. Remove the six screws (Y1) fastening the back lid.

NOTE: Besure to unscrew six screws (Y1) used to fix the back lid to the cabinet. If the cabinet is opened without unscrewing, a boss (screw socket) of the cabinet side might break.

3. Remove the cabinet (1) from the set as its surface (cabinet side) is faced up.
   To remove it, hold up the cabinet a little toward you (in the direction of arrow 1) as shown in figure below, push it toward the top (in the direction of arrow 2), and finally open it from the top (by lifting it in the direction of arrow 3).
4. As three sockets (61) connecting from the speaker (52) to the amplifier printed circuit board (51) are pulled out, the cabinet can be removed.
   (A – A', B – B', C – C')





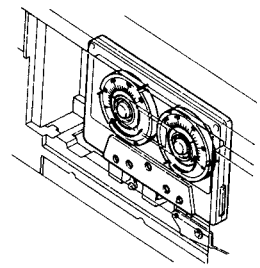
Y1 : Pan Head Tapping Screw
3 x 35mm

TORQUE ADJUSTMENT

1. Set the unit to the PLAY, FAST FORWARD or REWIND mode.
2. Messure the each torque with a torque gauge. They should be as following;

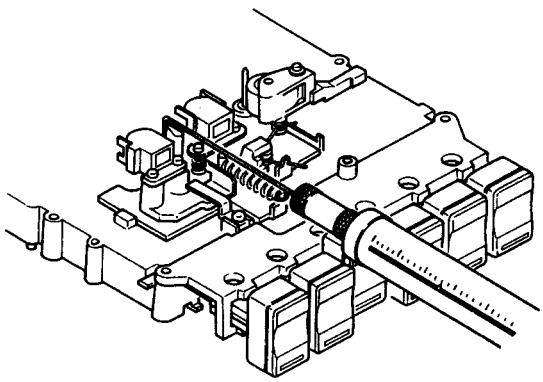
PLAY	30 – 65 g/cm
FAST FORWARD	60 – 110 g/cm
REWIND	60 – 110 g/cm

3. If the each torque fails to reach the standard value. Clean the drive belt, flywheel, motor pulley, take-up reel, idler and rewind roller with a cotton swab soaked in alcohol.



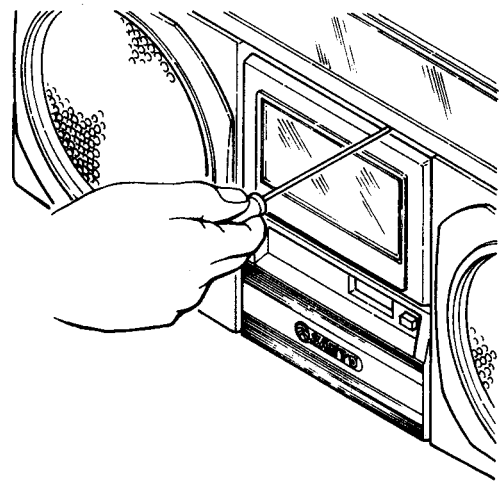
AUTO-STOP ADJUSTMENT

Measure the senser pressure with a tension gauge with the unit set in the playback mode. The unit should be shut off when the senser pressure stand within a range of 30 to 55 grams.
If the shut-off mechanism fails to function at a senser pressure of 30 to 55 grams, adjust the spring coil (Mechanism No. M60).



HEAD AZIMUTH ADJUSTMENT

Mount a music tape on the unit for the reproduction of tape. Insert the screw driver(+) to azimuth hole, and turn the azimuth adjusting screw until to the maximum sound.



TUNER ADJUSTMENT

MW ADJUSTMENT Set the DC 9V, Speaker impedance is 6 ohms.

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F.T.	Connect sweep generator to Test Loop.	Connect oscilloscope to EXT. SP terminals	460 KHz (400 Hz 30% modulation)	Low end of dial scale. At position of unrequired signal.	T305,T306, T307	MAX.
2	OSC.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	505 KHz (400 Hz 30% modulation)	Low end of dial scale	L110	MAX.
3				1650 KHz (400 Hz 30% modulation)	High end of dial scale	VCT4	
4	ANT.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	600 KHz (400 Hz 30% modulation)	600 KHz on dial scale	L108-a	MAX.
5				1400 KHz (400 Hz 30% modulation)	1400 KHz on dial scale	VCT3	
6	Repeat adjustments.						

PREPARE:
1. Set the dial pointer to very left line of dial scale.
2. Connect sweep generator, AM SG, VTVM and oscilloscope.
3. Selector switch to "MW"
4. Use a screwdriver with plastic grip for all adjustments.

LW ADJUSTMENT

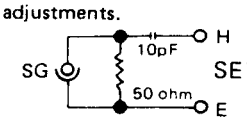
Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	OSC.	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	145 KHz (400 Hz 30% modulation)	Low end of dial scale.	L111	MAX
2				295 KHz (400 Hz 30% modulation)	High end of dial scale	CT104	
3	ANT	Connect AM SG to Test Loop.	Connect VTVM to speaker terminals.	160 KHz (400 Hz 30% modulation)	160 KHz on dial scale.	L108-b	MAX
4				280 KHz (400 Hz) 30% modulation)	280 KHz on dial scale.	CT102	
5	Repeat adjustment.						

PREPARE:
1. Set the dial pointer to very left line of dial scale.
2. Connect sweep generator, AM SG, VTVM and oscilloscope.
3. Selector switch to "LW".
4. Use a screwdriver with plastic grip for all adjustments.

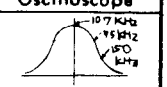
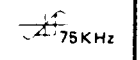
SW ADJUSTMENT

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	OSC.	Connect AM SG to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. terminals.	5.8 MHz (400 Hz 30% modulation)	Low end of dial scale.	L109	MAX.
2				19.0 MHz (400 Hz 30% modulation)	High end of dial scale.	CT103	
3	ANT.	Connect AM SG. to ANT terminal through IRE dummy.	Connect VTVM to EXT. SP. terminals.	7.0 MHz (400 Hz 30% modulation)	7.0 MHz on dial scale.	L107	MAX
4				18.0 MHz (400 Hz 30% modulation)	18.0 MHz on dial scale.	CT101	
5	Repeat adjustments.						

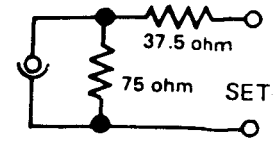
PREPARE:
1. Set the dial pointer to very left line dial scale.
2. Connect signal generator to dummy antenna.
3. Set the Fine Tuning to mechanical center.
4. Use screwdriver with plastic grip for all adjustments.
5. Selector switch to "SW"
6. Use a Dummy antenna as follow.



FM ADJUSTMENT

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope
		Input	Output				
1	I.F	Connect sweep generator to TP-1(H) & TP-2(E)	Connect oscilloscope to R321 (H) & shield case (E).	10.7 MHz (0% modulation)	Near max. capacitance tuning gang under no station signal.	T301 ~ T303	
2	Ratio Det.		Connect oscilloscope to R329 (H) & shield case (E).			T304	
3	OSC.	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminals.	87.3 MHz (400 Hz 30% modulation)	Low end of dial scale	L104	MAX.
4				108.4 MHz (400 Hz 30% modulation)	High end of dial scale	VCT2	
5	ANT.	Connect FM SG to TP-1(H) & TP-2(E)	Connect VTVM to speaker terminal.	90 MHz (400 Hz 30% modulation)	90 MHz on dial scale	L101	MAX.
6				106 MHz (400 Hz 30% modulation)	106 MHz on dial scale	VCT1	
7	Repeat adjustments.						

PREPARE:
1. Set the dial pointer to very left line of dial scale.
2. Connect sweep generaotr, FM SG, VTVM and oscilloscope. FM antenna input impedance is 75 ohm.
3. Use a screwdriver with plastic grip for all adjustments.



ADJUSTMENT OF FM MPX (MULTIPLEX)

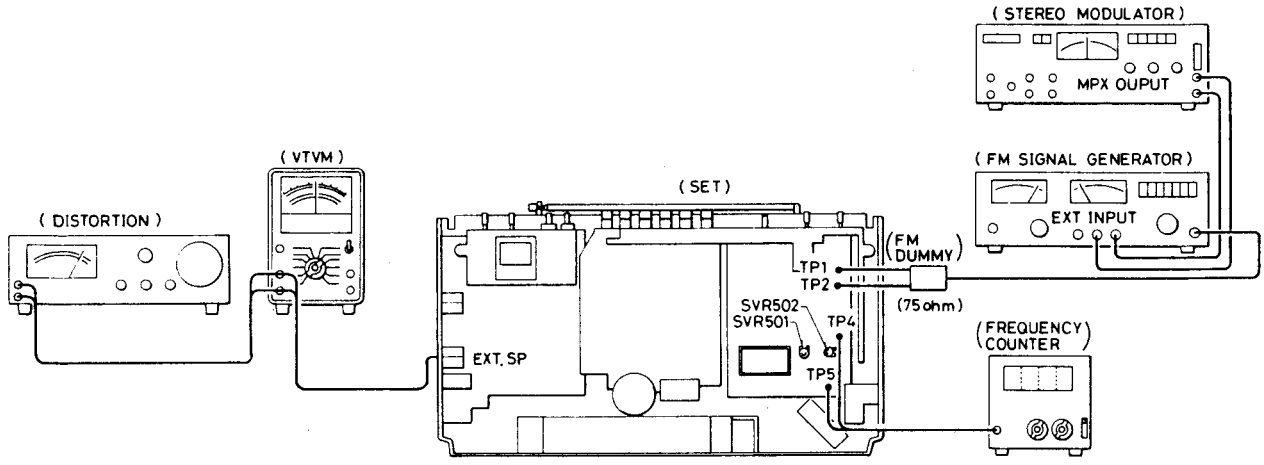
(1) Set SVR501 (10kΩB) in the central position.

(2) Adjust modulation of FM SG with stereo modulator.
Pilot signal: 6.7 kHz dev. (9% modulation)
Stereo signal and main signal: 22.5 kHz dev. (30% modulation)
Remarks: Modulation frequency is 1,000 Hz.
NOTE: Since method of adjusting modulation varies according to each measuring apparatus to be used, fully master for handling the apparatus.

(3) Keeping the output signal switch of the stereo modulator in the "MAIN" setting receiving frequency of a radio in 98 MHz, tune in with FM SG.
Remarks: Output of FM SG is 60 dB.

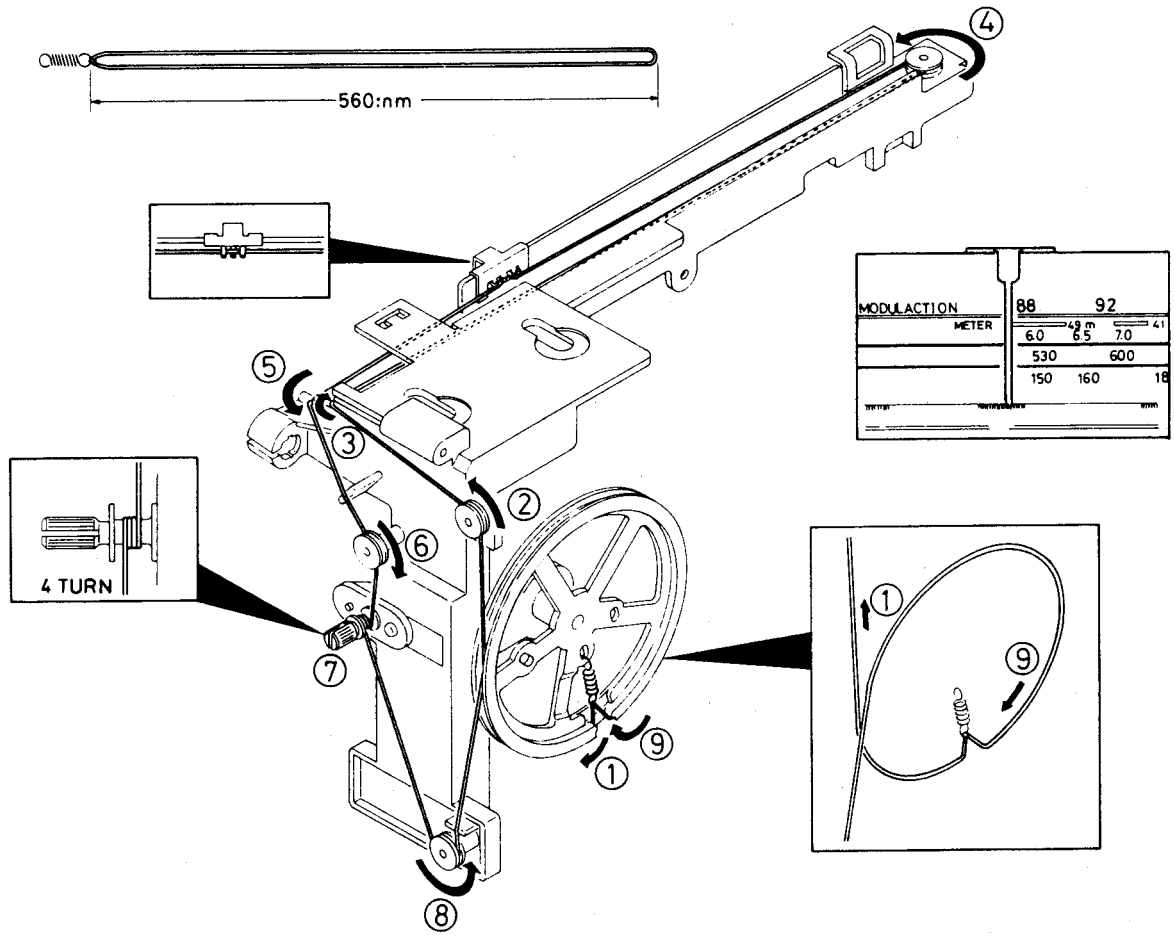
(4) 19 kHz adjustment (VCO adjustment)
Under the FM stereo condition, connect the frequency counter to TP4 with a radio in the non-modulation state, and adiust SVR501 (10 kΩB) so that the counter shows 19 kHz ±100 Hz.
Remarks: TP4 = hot H side of frequency counter.
TP5 = earth E side of the same.
NOTES: * FM stereo condition is attained by setting the band selective switch in the "FM" side and the mode change-over switch in the STEREO" side.
* Non-moduiation state is attained by putting OFF the PILOT and MAIN & SUB signals of the output signal switch of the stereo modulator.

(5) Separation adjustment
a) Set the tone control potentiometer in the minimum, and the balance adjustment potentiometer in the mechanical center.
b) Shift the output signal switch of the stereo modulator in the "MAIN" setting (to the same condition as foregoing item 3), and put ON pilot signal.
c) Connect a vacuum-tube voltmeter to external speaker (EXT. SP.) terminals. Connect it to the left or right jacks of external speaker terminals according to adjustment of the left or right channel.
d) For both the left and right channels, adjust its output to 50mW with volume control potentiometer.
Remarks: With load of 6Ω, the voltmeter should indicates 0.55V.
e) To adjust the left-side separation, bring the output signal switch to the "RIGHT" setting, and adjust SVR502 (20 kΩB) so that leakage of the right channel taking place in the left channel becomes the minimum.
f) To adjust the right side separation, reconnect a vacuum-tube voltmeter to the right jack of external speaker terminals, bring the output signal switch to the "LEFT" setting, and adjust SVR502 (20 kΩB) so that leakage of the left channel taking place in the right channel becomes the minimum.
g) In the case where position of SVR502 to obtain the minimum point in foregoing items (e) and (f) differs, it is all right to set SVR502 to such a position within the range to satisfy the specified separation value (of greater 30 dB) for both the left and right channels.

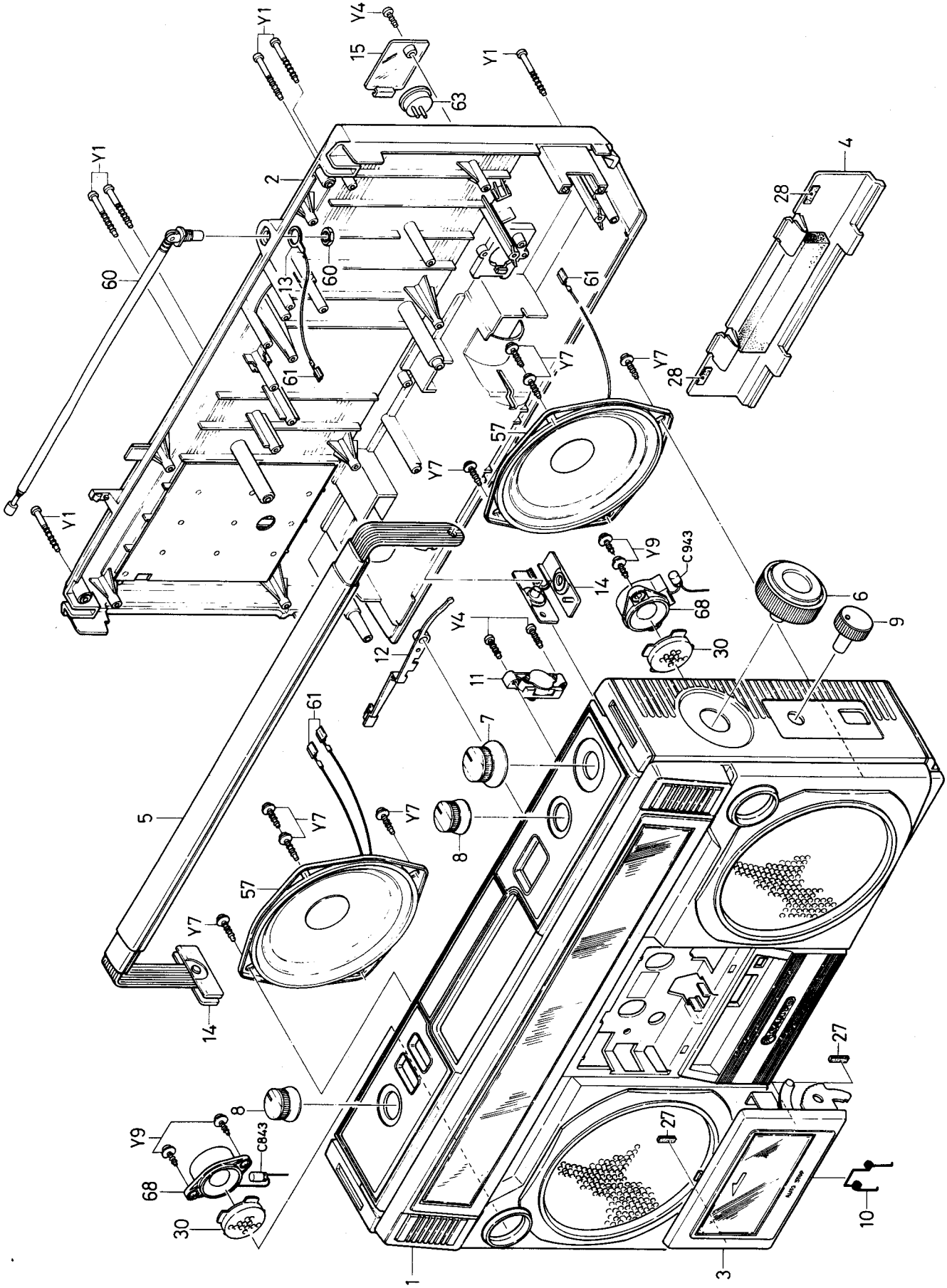


STRINGING DIAL ROPE

1. **Preparations**
   Connect the dial rope to the spring coil (37) hooked to the drum. When folded into two parts, it should be 560mm in length.
2. **Instructions for rope stringing**
   Stretch the dial rope (1) (2) (3) (4) (5) (6) in that order. Wind it around the tuning shaft twice at 4, and continue stringing it (8) (9).
3. **Dial reading adjustment**
   Turn the tuning shaft counterclockwise until it races. Set the pointer to the left side mark of FM reading on the dial scale.



EXPLODED VIEW (CABINET)



PARTS LIST

Key No.	Part No.	Description	Q'ty
PACKING			
	141-6-132T-99420	Individual Carton	1
	141-6-144T-67300	Foam Plastic Case (R)	1
	141-6-144T-67400	Foam Plastic Case (L)	1
	141-6-231T-40600	Inner Polye Cover, Set	1
	141-6-231T-20350	Inner Polye Cover, Inst. B	1
	141-2-171T-09500	Handle, Individual Carton	1
	141-6-316T-98700	Pad, Handle	1
ACCESSORY			
	4-241T-13800	Cassette Tape	1
	4-243T-77980	Power Cord	1
	141-6-410T-54401	Instruction Manual	1
CABINET			
1	141-0-111T-46602	Cabinet Ass'y	1
2	141-0-126T-29020	Back Lid Ass'y	1
3	141-0-124T-27203	Top Lid Ass'y (Cassette)	1
4	141-0-128T-12703	Battery Lid Ass'y	1
5	141-0-171T-16401	Handle Ass'y	1
6	141-2-163T-45540	Rotary Knob, Tuning	1
7	141-2-163T-60903	Rotary Knob, Volume	1
8	141-2-163T-61003	Rotary Knob, Balance Tone, VR	2
9	141-2-163T-53240	Rotary Knob, Fine Tuning	1
10	141-2-855T-37800	Spring Coil, Cassette Lid	1
11	141-0-581T-10902	Gear Ass'y	1
12	141-2-742T-49600	Lever, Cassette Lid	1
13	123-2-472R-11100	Lug	1
14	141-2-271T-14300	Bracket, Handle	2
15	141-2-132T-03800	Sign Window	1
16	141-2-742T-30700	Lever, Rec.	1
17	141-2-731T-71400	Slide, Rec.	1
18	141-2-855T-36700	Spring Coil	1
19	141-2-742T-31801	Lever, Band Switch	1
20	141-2-747T-16100	Bracket Lever, Band Switch	1
21	141-2-855T-20600	Spring Coil, Band Switch	1
22	141-2-345T-00100	Steel Ball	1
23	141-2-253T-17000	Joint	1
25	141-2-447T-28600	Cushion 12x12x12t	1
27	141-2-447T-62000	Cushion 15x3x2t	2
28	141-2-447T-00800	Cushion 5x15	7
30	141-2-153T-66100	Escutcheon, Tweeter	2
CHASSIS			
31	141-0-311T-31401	Chassis Ass'y	1
32	141-0-312T-17100	Sub Chassis	1
33	141-0-566T-04610	Tuning Shaft Ass'y	1
34	141-2-146T-21409	Dial Scale	1
35	141-2-538T-03900	Drum	1
36	141-2-340T-03000	Rope 1300mm	1
37	141-2-851T-06300	Spring Coil, Rope	1
38	141-2-511T-16000	Pointer	1
39	141-2-853T-62500	Spring Plate	1
40	141-2-446T-06700	Plastic Cushion	1
41	123-2-457R-11700	Special Washer	3
42	141-2-367T-32336	Bracket, Socket	1
43	141-2-472T-01001	Lug	5
44	141-2-453T-01200	Washer 3x8x1t	2
45	141-2-464T-08700	Fixer	2
46	141-2-445T-23500	Rubber Cushion	2
47	141-2-464T-20671	Fixer	2
48	141-2-162T-16201	Lever Knob	2

Key No.	Part No.	Description	Q'ty
ELECTRICAL PARTS			
55	4-224R-20700	Fine Tuning	1
56	4-300T-02500	Power Trans.	1
57	4-151T-30771	Speaker 12cm 6ohm	2
58	4-153T-11700	Microphone	2
59	4-511T-08088	Meter, VU/Butt.	1
60	4-244T-03200	Telescopic Rod Antenna	1
61	4-235T-34600	Socket, Antenna	5
62	4-235T-33200	Socket, Voltage Select	1
63	4-236T-09906	Plug Assy	1
64	141-2-382T-03100	Terminal, Voltage Select	3
65	4-234T-04400 4-234T-04471 4-234T-04472	} or Fuse 1A	1
66	4-231R-14371	Switch	1
67		Ceramic 180pF 50V±10%(C723)	1
68	4-151T-35700	Speaker, Tweeter	1
HARDWERE			
Y1		Pan Hd. Tapping Screw 3x35	6
Y2		Pan Hd. Tapping Screw 3x30	2
Y3		Pan Hd. Tapping Screw W/Washer 3x20	2
Y4		Pan Hd. Tapping Screw 3x16	4
Y5		Pan Hd. Tapping Screw W/Washer 3x12	3
Y6		Pan Hd. Tapping Screw 3x10	5
Y7		Pan Hd. Tapping Screw W/Washer 3x10	13
Y8		Pan Hd. Tapping Screw 3x8	2
Y9		Pan Hd. Tapping Screw, W/Washer 3x8	7
Y10		Pan Hd. Tapping Screw 3x6	1
Y11		Pan Hd. Screw W/Spring Washer 3x4	1
Y12		Hexagon Bolt 2.6x16	1
Y13		Washer 3x8x0.5t	1
Y14		Pan Hd. Tapping Screw W/Washer 3x16	2
Y15		Pan Hd. Tapping Screw 2.3x4	2
AMP PCB ASS'Y			
51	141-4-230T-66071	P.C. Board Ass'y, Amp	1
	4-231T-70100	Switch, Mono/Stereo	1
	4-231T-70000	Switch, TA-RA-TI	1
	4-231T-88800	Slide Switch, R/P	1
	4-235T-60671	Socket, Headphone	1
	4-235T-37900	Socket, Mic.	1
	4-235T-38000	Socket, Ext/SPx2, Mic.	3
	141-2-382T-03000	Terminal	6
	4-222T-72300	Variable Resistor, Tone	1
	4-235T-33300	Socket, DIN 5P with Switch	1
	141-2-472T-08100	Lug	1
	4-237T-00100	Terminal	1
IC801, 901		IC LA4135	2
Q801,901		Transistor 2SC1740	2
Q802,902		Transistor 2SC1740	2
Q803,903		Transistor 2SC1740	4
804,904			
Q806,906		Transistor 2SA608	2
Q807,907		Transistor 2SC536	2
D701,801		Diode 1S2473 or DS442	8
702,802			
803,903			
901,902			
D804,904		Diode 1S188 FM or 1N60FM	2
		CAPACITORS	
C850,950		Ceramic 470pF 50V ±10%	5
835,935			
712			
C805,905		Ceramic 150pF 50V ±10%	2
C806,906		Ceramic 220pF 50V ±10%	2
C811,911		Ceramic 220pF 50V ±10%	5
825,925			
716			
C842,942		Ceramic 270pF 50V ±10%	2
C715,718		Ceramic 100pF 50V ±10%	2
C802,902		Ceramic 220pF 50V ±10%	2
C801,901		BC Con 0.033μF 50V ±20%	2
C832,932		Mylar 0.15μF 50V ±20%	2
C815,915		Ceramic 330PF 50V ±10%	6
833,933			
814,914			

PARTS LIST

ey No.	Part No.	Description	Q'ty
MP PCB ASS'Y			
308,908		BC Con 0.022μF 50V ±20%	4
336,936			
321,921		BC Con 0.015μF 50V ±20%	2
318,918		BC Con 0.0022μF 50V ±20%	2
337,937		BC Con 0.01μF 25V ±20%	4
309,909			
313,913		Electrolytic 1μF 25V	2
704		Electrolytic 1μF 25V	1
824,924		Electrolytic 2.2μF 25V	2
803,903		Electrolytic 4.7μF 25V	2
812,912		Electrolytic 100μF 6.3V	2
804,904		Electrolytic 100μF 10V	5
828,928			
705			
829,929		Electrolytic 100μF 16V	4
830,930			
822,922		Electrolytic 220μF 10V	2
707		Electrolytic 1000μF 16V	1
713		Electrolytic 2200μF 16V	1
831,931		Electrolytic 330μF 10V	2
714		Electrolytic 10μF 16V	1
841,941		Electrolytic 220μF 16V	2
834,934		Electrolytic 1μF 25V	4
817,917		Electrolytic 0.33μF 25V	2
807,907		Electrolytic 0.47μF 25V	2
723		Electrolytic 4.7μF 16V	1
		RESISTORS	
709,908		Carbon 15 ohm ±10% ¼W	2
837,937		Carbon 100 ohm ±10% ¼W	3
850			
704		Carbon 330 ohm ±10% ¼W	1
924		Carbon 270 ohm ±10% ¼W	1
910		Carbon 820 ohm ±10% ¼W	1
923		Carbon 1.5K ohm ±10% ¼W	1
835,935		Carbon 3.3K ohm ±10% ¼W	2
829,929		Carbon 4.7K ohm ±10% ¼W	4
831,931			
805		Carbon 6.8K ohm ±10% ¼W	1
807		Carbon 22K ohm ±10% ¼W	1
706		Carbon 56K ohm ±10% ¼W	1
930,830		Carbon 100K ohm ±10% ¼W	2
803,903		Carbon 3.3K ohm ±10% ¼W	2
901,904		Carbon 3.9K ohm ±10% ¼W	2
918		Carbon 120K ohm ±10% ¼W	1
919		Carbon 560K ohm ±10% ¼W	1
802,902		Carbon 6.8K ohm ±10% ¼W	2
828		Carbon 68K ohm ±10% ¼W	1
808		Carbon 15 ohm ±10% ¼W	1
836,936		Carbon 100 ohm ±10% ¼W	3
950			
826,926		Carbon 120 ohm ±10% ¼W	2
707		Carbon 68 ohm ±10% ¼W	1
824		Carbon 270 ohm ±10% ¼W	1
810		Carbon 820 ohm ±10% ¼W	1
823		Carbon 1.5K ohm ±10% ¼W	1
705		Carbon 3.3K ohm ±10% ¼W	1
801,804		Carbon 3.9K ohm ±10% ¼W	2
815,915		Carbon 8.2K ohm ±10% ¼W	2
817,917		Carbon 4.7K ohm ±10% ¼W	2
905		Carbon 6.8K ohm ±10% ¼W	1
813,913		Carbon 8.2K ohm ±10% ¼W	2
907		Carbon 22K ohm ±10% ¼W	1
840,940		Carbon 10K ohm ±10% ¼W	2
811,911		Carbon 68K ohm ±10% ¼W	4
820,920			
818		Carbon 120K ohm ±10% ¼W	1
819,822		Carbon 560K ohm ±10% ¼W	3
922			
806,906		Carbon 820K ohm ±10% ¼W	2
816,916		Carbon 1M ohm ±10% ¼W	2
928		Carbon 68K ohm ±10% ¼W	1
821,921		Carbon 68K ohm ±10% ¼W	2
841,941		Carbon 3.9K ohm ±10% ¼W	2
814,914		Carbon 6.8K ohm ±10% ¼W	2
845,945		Carbon 1M ohm ±10% ¼W	2
844,944		Carbon 1.8K ohm ±10% ¼W	2
812,912		Carbon 8.2K ohm ±10% ¼W	2

Key No.	Part No.	Description	Q'ty
POWER SOURCE PCB ASS'Y			
52	141-4-230T-66271	P.C. Board Ass'y, Power Source	1
	4-235T-56100	Socket, AC	1
	141-2-135T-44900	Cover, AC Socket	1
C708,709 710,711 730		Ceramic 0.022μF 50V +80–20%	5
D703,704 705,706		Diode 1N4003 or SR1K 2	4
	141-2-381T-04200	Bracket Fuse	2
	4-237T-00100	Terminal	5
TUNER PCB ASS'Y			
53	141-4-233T-15872	P.C. Board Ass'y, Tuner	1
CT101,103	4-224R-01300	Trimmer	2
	4-237T-00100	Terminal	19
CT102	4-224R-10800	Trimmer	1
CT104	4-224T-15400	Trimmer	1
L107	4-257T-38110	Antenna Coil	1
L110	4-258T-05611	OSC Coil	1
L111	4-258T-25610	OSC Coil	1
L109	4-258T-21210	OSC Coil	1
L108	4-257T-35701	Antenna Coil Ass'y	1
	4-253T-11100	RF Filter	1
L101	4-265R-01310	VHF Coil	1
L103	4-265R-12610	VHF Coil	1
L104	4-265T-51310	VHF Coil	1
L105	4-253T-10804	Filter	1
L106	4-253T-10817	Filter	1
T301	4-256R-20810	IFT	1
T303	4-256R-15110	IFT	1
T304	4-256R-02310	IFT	1
T305,306	4-256R-00110	IFT	2
T307	4-256R-00210	IFT	1
T302	4-256R-19510	IFT	1
S101	4-231T-66371	Switch	1
B101	123-2-471R-10400	Core	1
B102	123-2-471R-10400	Core	1
CR501, 502	4-227T-02300	CR Pack	2
SVR501	4-222T-39575	Semifixed Variable Resistor	1
SVR502	4-222T-39576	Semifixed Variable Resistor	1
	141-2-322T-18900	Shield Plate	1
VC1,2 3,4	4-224T-12200	Variable Capacitor	1
CF301	4-256T-80400	I.F. Filter } or	1
	4-256T-80471	I.F. Filter }	
	4-256T-80472	I.F. Filter }	
	4-256T-80473	I.F. Filter }	
	4-256T-80474	I.F. Filter }	
	4-222T-72600	Variable Resistor, Balance	1
	141-2-472T-08000	Lug	1
	4-222T-72500	Variable Resistor, Volume	
Q101		Transistor 2SC930	1
Q102,302		Transistor 2SC930 Conv	2
Q301,303		Transistor 2SC930 IF	2
Q304		Transistor 2SC930 IF	1
D103		Diode SD115	1
D305,306		Diode 1N60FM	2
D101,102 105,301 303,304		Diode 1S2473 or DS442X	6
D302		Diode MV-11T	1
D308		Diode YZ060	1
IC501		IC AN7410	1
		CAPACITORS	
C330		Electrolytic 470μF 6.3V	1
C512		Electrolytic 220μF 10V	1
C310,321 326		Electrolytic 4.7μF 6.3V	3
C511		Electrolytic 1μF 10V	1
C328		AL Electrolytic 1μF 10V +40–20%	1
C503,505		Electrolytic 0.47μF 25V	2
C504		Electrolytic 0.22μF 50V	1
C509,510		Electrolytic 0.15μF 50V	2
C506		P.P Con. 470pF 100V ±5%	1
C127		Styrol 330pF 50V ±5%	1
C130		Styrol 250pF 50V ±5%	1

PARTS LIST

Key No.	Part No.	Description	Q'ty
TUNER PCB ASS'Y			
		CAPACITORS	
C307		BC-CON 0.1μF 25V ±20%	1
C123		Mylar 0.0033μF 50V ±20%	1
C126,129 303		Mylar 0.0047μF 50V ±20%	3
C305		Mylar 0.022μF 50V ±20%	1
C312		BC-CON 0.1μF 12V ±20%	1
C306		BC-CON 0.01μF 25V ±20%	1
C311		BC-CON 0.0047μF 25V ±20%	1
C304,317		BC-CON 0.022μF 25V ±20%	2
C323,327 502,308		BC-CON 0.047μF 25V ±20%	4
C125		Ceramic 4pF 50V ±0.25pF N750	1
C313		Ceramic 1pF 50V ±0.25pF	1
C314		Ceramic 2pF 50V ±0.25pF	1
C111,116		Ceramic 3pF 50V ±0.25pF	2
C133,105		Ceramic 5pF 50V ±0.25pF	2
C118		Ceramic 6pF 50V ±0.5pF	1
C124		Ceramic 10pF 50V ±0.5pF	1
C128		Ceramic 13pF 50V ±0.5pF N750	1
C113		Ceramic 11pF 50V ±5% N750	1
C115		Ceramic 15pF 50V ±10%	1
C104		Ceramic 16pF 50V ±5%	1
C107		Ceramic 24pF 50V ±5%	1
C117		Ceramic 30pF 50V ±10%	1
C315		Ceramic 30pF 50V ±5% N750	1
C333		Ceramic 39pF 50V ±10%	1
C132		Ceramic 47pF 50V ±5%	1
C121		Ceramic 51pF 50V ±5%	1
C329,316 122,134		Ceramic 100pF 50V ±10%	4
C131		Ceramic 180pF 50V ±5%	1
C137		Ceramic 10pF 50V ±0.5pF	1
C138		Ceramic 3pF 50V ±0.25pF	1
C319,320 322,513		Ceramic 220pF 50V ±10%	4
C135,318 325,507, 508		Ceramic 0.001μF 50V ±10%	5
C101,109, 331,139		Ceramic 0.01μF 50V +80–20%	4
C103,106 110,136 301,302		Ceramic 0.022μF 50V +80–20%	6
C309,332		Ceramic 0.022μF 50V +80–20%	2
C112,324		Ceramic 0.047μF 50V +80–20%	2
C108		Ceramic 270pF 50V ±10%	1
		RESISTORS	
R103,111		Carbon 33 ohm ±10% ¼W	2
R332		Carbon 100 ohm ±10% ¼W	1
R313,505		Carbon 560 ohm ±10% ¼W	2
R506,104 502		Carbon 1K ohm ±10% ¼w	3
R101,510 511		Carbon 2.2K ohm ±10% ¼W	3
R309		Carbon 1.2K ohm ±10% ¼W	1
R107		Carbon 2.2K ohm ±10% ¼W	1
R330		Carbon 10K ohm ±10% ¼W	1
R508,509		Carbon 27K ohm ±10% ¼W	2
R329		Carbon 8.2K ohm ±10% ¼W	1
R504		Carbon 18K ohm ±10% ¼W	1
R507		Carbon 22K ohm ±10% ¼W	1
R501		Carbon 47K ohm ±10% ¼W	1
R110		Carbon 100K ohm ±10% ¼W	1
R328		Carbon 1M ohm ±10% ¼W	1
R306		Carbon 4.7K ohm ±10% ¼W	1
R102		Carbon 220K ohm ±10% ¼W	1
R120		Carbon 10 ohm ±10% ¼W	1
R121		Carbon 47 ohm ±10% ¼W	1
R334		Carbon 56 ohm ±10% ¼W	1
R109,301 333,317		Carbon 100 ohm ±10% ¼W	4
R315		Carbon 330 ohm ±10% ¼W	1
R303		Carbon 330 ohm ±10% ¼W	1
R118		Carbon 180 ohm ±10% ¼W	1

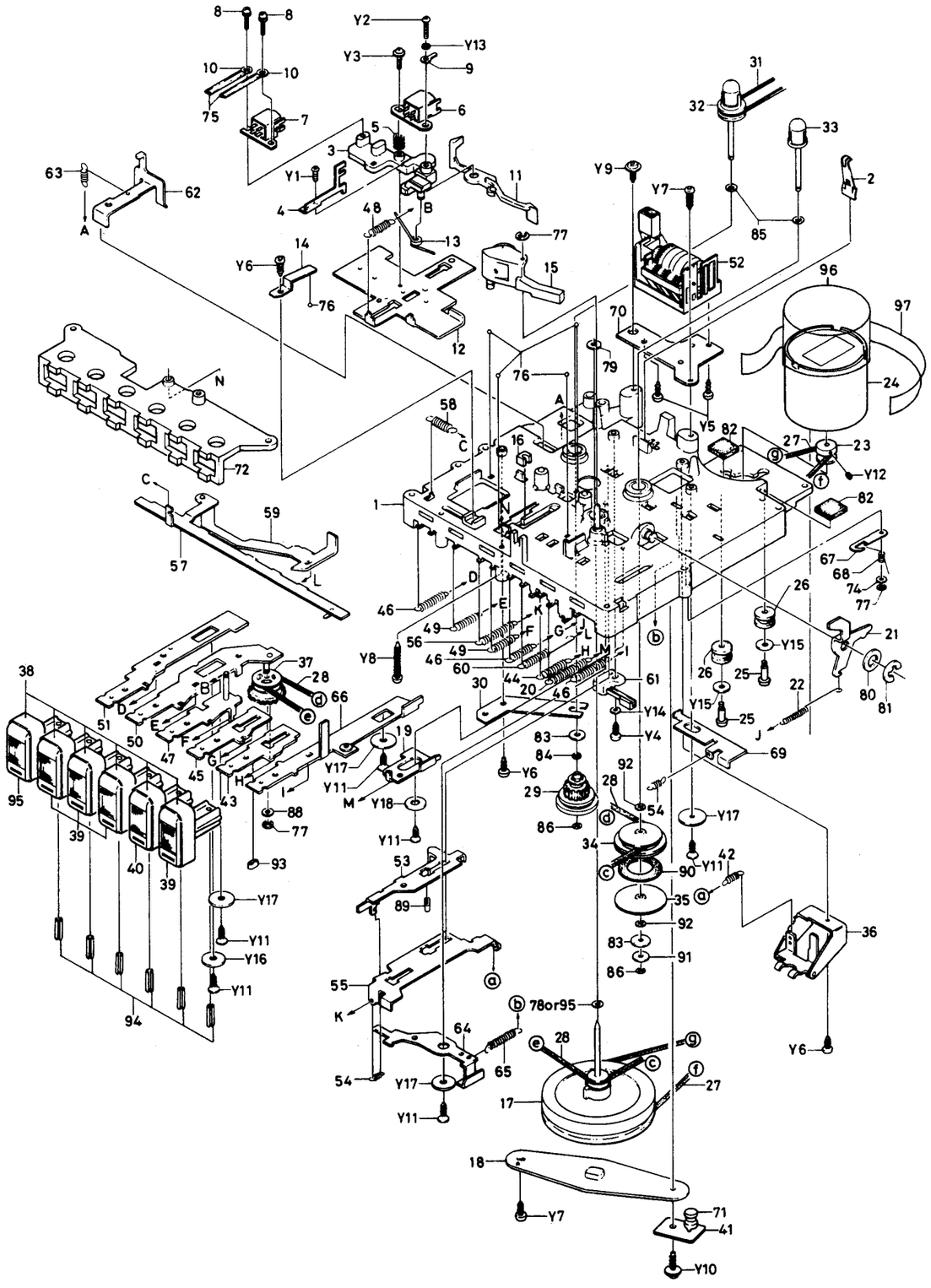
Key No.	Part No.	Description	Q'ty
TUNER PCB ASS'Y			
		RESISTORS	
R117		Carbon 270 ohm ±10% ¼W	1
R304,305 312,115		Carbon 560 ohm ±10% ¼W	4
R114,310 323,324 322		Carbon 1K ohm ±10% ¼W	5
R307		Carbon 1.8K ohm ±10% ¼W	1
R105		Carbon 2.2K ohm ±10% ¼W	1
R119,325 326,327		Carbon 5.6K ohm ±10% ¼W	4
R514		Carbon 5.6K ohm ±10% ¼W	1
R331		Carbon 8.2K ohm ±10% ¼W	1
R308		Carbon 22K ohm ±10% ¼W	1
R311		Carbon 47K ohm ±10% ¼W	1
R316		Carbon 56K ohm ±10% ¼W	1
R302		Carbon 330K ohm ±10% ¼W	1
R318		Carbon 270K ohm ±10% ¼W	1
R106		Carbon 470K ohm ±10% ¼W	1
R113		Carbon 82K ohm ±10% ¼W	1
R122		Carbon 22 ohm ±10% ¼W	1
R513		Carbon 47 ohm ±10% ¼W	1
R320		Carbon 150 ohm ±10% ¼W	1
R319		Carbon 1K ohm ±10% ¼W	1
R116		Carbon 1.2K ohm ±10% ¼W	1
R108		Carbon 100K ohm ±10% ¼W	1
R321		Carbon 270 ohm ±10% ¼W	1
LED PCB ASS'Y			
54	141-4-233T-15972	P.C. Board Ass'y, LED	1
D501		Led SLP-131B-A Red Led SLP-131B-B Red } or Led SLP-131B-C Red	1
OSC PCB ASS'Y			
70	141-4-233T-04871	P.C Board Ass'y, OSC	1
L701	4-258T-07100	OSC Coil	1
L801,901	4-252T-08300	Choke	2
L702	4-252T-03700	Choke	1
Q702		Transistor 2SB808	1
		CAPACITORS	
C719		Mylar 0.001μF 50V ±10%	1
C721		Electrolytic 22μF 25V	1
C720		Mylar 0.022μF 50V ±10%	1
C722		Mylar 0.01μF 50V ±10%	1
C838,938		Ceramic 0.001μF 50V ±10%	2
C839,939		Ceramic 680pF 50V ±10%	2
C840,940		Ceramic 470pF 50V ±10%	2
		RESISTORS	
R842,942		Carbon 47K ohm ±10% 1/4W	2
R843,943		Carbon 15K ohm ±10% 1/4W	2
R712		Carbon 6.8K ohm ±10% 1/4W	1
R714		Carbon 180 ohm ±10% 1/4W	1
R713		Carbon 6.8 ohm ±10% 1/4W	1
R716		Carbon 33 ohm ±10% 1/4W	1

PARTS LIST

Key No.	Part No.	Description	Q'ty
MECHANISM (TM9923LU)			
1	141-0-311T-23420	Chassis Ass'y	1
2	141-2-853T-46900	Spring Plate	1
3	141-2-375T-06900	Bracket Head	1
4	141-2-821T-10700	Tape Guide	1
5	141-2-851T-82700	Spring Coil	1
6	4-242T-21671	Head R/P	1
7	4-242T-19500	Head, E	1
8	141-2-421T-28000	Special Screw	2
9	123-2-472R-00200	Lug	1
10	141-2-472T-02200	Lug	2
11	141-2-721T-03900	Lever Shut-Off	1
12	141-2-731T-37500	Slide	1
13	141-2-852T-35300	Spring Wire	1
14	141-2-853T-53200	Spring Plate	1
15	141-0-545T-04720	Pinch Roller Lever Ass'y	1
16	141-2-461T-28400	Pipe	1
17	141-0-521T-08901	Flywheel Ass'y	1
18	141-0-524T-06900	Bracket Flywheel Ass'y	1
19	141-2-742T-08202	Lever	1
20	141-2-851T-80100	Spring Coil	1
21	141-2-741T-96400	Lever	1
22	141-2-855T-10801	Spring Coil	1
	141-2-661T-65701 141-2-661T-65702 141-2-661T-65705	} or Pulley	1
24	4-527T-15400	Motor	1
25	141-2-421T-23900	Special Screw	2
26	141-2-445T-07000	Rubber Cushion	2
27	141-2-564T-15402	Square Belt, Main	1
28	141-2-564T-16503	Belt, Drive	1
29	141-0-661T-22702	Pulley Ass'y	1
30	141-2-853T-48000	Spring Plate	1
31	141-2-564T-16900	Square Belt	1
32	141-0-531T-11300	Reel Plate Ass'y	1
33	141-0-531T-11200	Reel Plate Ass'y	1
34	141-2-661T-22900	Pully	1
35	141-2-661T-23001	Pully	1
36	141-0-741T-96200	Lever Ass'y	1
37	141-2-661T-22600	Pulley	1
38	141-2-161T-73500	Push Button	6
39	141-2-157T-34802	Inlay	4
40	141-2-157T-34803	Inlay , stop	1
41	4-233T-06300	P.C. Board	1
42	141-2-855T-49500	Spring Coil	1
43	141-2-731T-43301	Slide, STOP	1
44	141-2-851T-73501	Spring Coil	1
45	141-2-731T-43401	Slide, F.FWD	1
46	141-2-851T-93002	Spring Coil	3
47	141-0-731T-43500	Slide Ass'y, PLAY	1
48	141-2-851T-91300	Spring Coil	1
49	141-2-851T-96400	Spring Coil	2
50	141-0-731T-43600	Slide Ass'y, REW	1
51	141-2-731T-43701	Slide, REC	1
52	141-2-811T-06700	Counter	1
53	141-2-731T-43101	Slide, Brake	1
54	141-2-855T-00200	Spring Coil	2
55	141-2-731T-51101	Slide	1
56	141-2-855T-00601	Spring Coil	1
57	141-0-731T-47800	Slide Ass'y	1
58	141-2-851T-73800	Spring Coil	1
59	141-2-741T-78400	Lever	1
60	141-2-851T-91200 141-2-851T-91201	) or Spring Coil	1
61	4-231T-59700 4-231T-61601	) or Switch	1
62	141-2-741T-61003	Lever	1
63	141-2-851T-87701	Spring Coil	1
64	141-2-742T-08102	Lever	1
65	141-2-851T-56100	Spring Coil	1
66	141-0-731T-47700	Slide Ass'y	1
67	141-2-614T-05200	Lever Lock	1
68	141-2-852T-37900	Spring Wire	1
69	141-2-742T-01400	Lever	1
70	141-2-812T-06301	Bracket Counter	1
71	4-252T-06600	Choke Coil	1
72	141-2-351T-48700	Bracket Mounting	1

Key No.	Part No.	Description	Q'ty
MECHANISM			
74	141-2-453T-00800	Fiver Washer 3x8x0.5mm	1
75	141-2-490T-00600	Tube 16x2φmm	2
76	141-2-354T-00400	Steel Ball	5
77	141-2-457T-23000	E Ring 2mm	3
78	141-2-453T-30202	Graphite Nylon Washer 2.5x4.7x0.5mm	1
79	141-2-457T-04300	Special Washer	1
80	141-2-453T-30802	Graphite Nylon Washer 6x9.5x0.57mm	1
81	141-2-457T-23200	E Ring 4mm	1
82	141-2-447T-36000	Cushion	2
83	141-2-457T-06200	Special Washer	2
84	141-2-457T-11000	Graphite Nylon Washer 2x3x0.25mm	1
85	141-2-453T-30102	Graphite Nylon Washer 2x4x0.5mm	2
86	141-2-457T-23700	E Ring 1.2mm	2
88	141-2-453T-30201	Graphite Nylon Washer 2.5x5x0.25mm	2
89	141-2-490T-05000	Tube 4φx6mm	1
90	141-2-452T-02300	Felt	1
91	141-2-453T-31200	Graphite Nylon Washer 2x8.5x0.25mm	1
92	141-2-453T-30101	Graphite Nylon Washer 2x4x0.25mm	2
93	141-2-490T-08301	Tube UL Type L-3mm	1
94	141-2-488T-01801	Pin	6
95	141-2-157T-34831	Inlay, REC	1
96	141-2-323T-00300	Shield Box, Motor	1
97	141-2-184T-02300	Tape 180mm	1
MECHANISM SCREW MOUNTING			
Y1		Pan Head Screw 2x2mm	1
Y2		Pan Head Screw 2x12mm	1
Y3		Pan Head Screw with Washer 2x12mm	1
Y4		Pan Head Tapping Screw 2.3x8mm	1
Y5		Pan Head Tapping Screw 2.6x8mm	2
Y6		Pan Head Tapping Screw 3x6mm	3
Y7		Pan Head Tapping Screw 3x8mm	3
Y8		Pan Head Tapping Screw 3x20mm	1
Y9		Pan Head Tapping Screw with Washer 3x8mm	1
Y10		Pan Head Tapping Screw with Washer 3x10mm	1
Y11		Flat Head Tapping Screw 3x8mm	6
Y12		Set Screw 2x4mm	1
Y13		Spring Washer 2x4.5x0.5mm	1
Y14		Washer 2.5x5x0.5mm	1
Y15		Washer 3x8x0.5mm	2
Y16		Washer 3x10x1mm	1
Y17		Washer 3x12x1mm	4
Y18		Washer 4x10x0.8mm	1

EXPLODED VIEW (MECHANISM)



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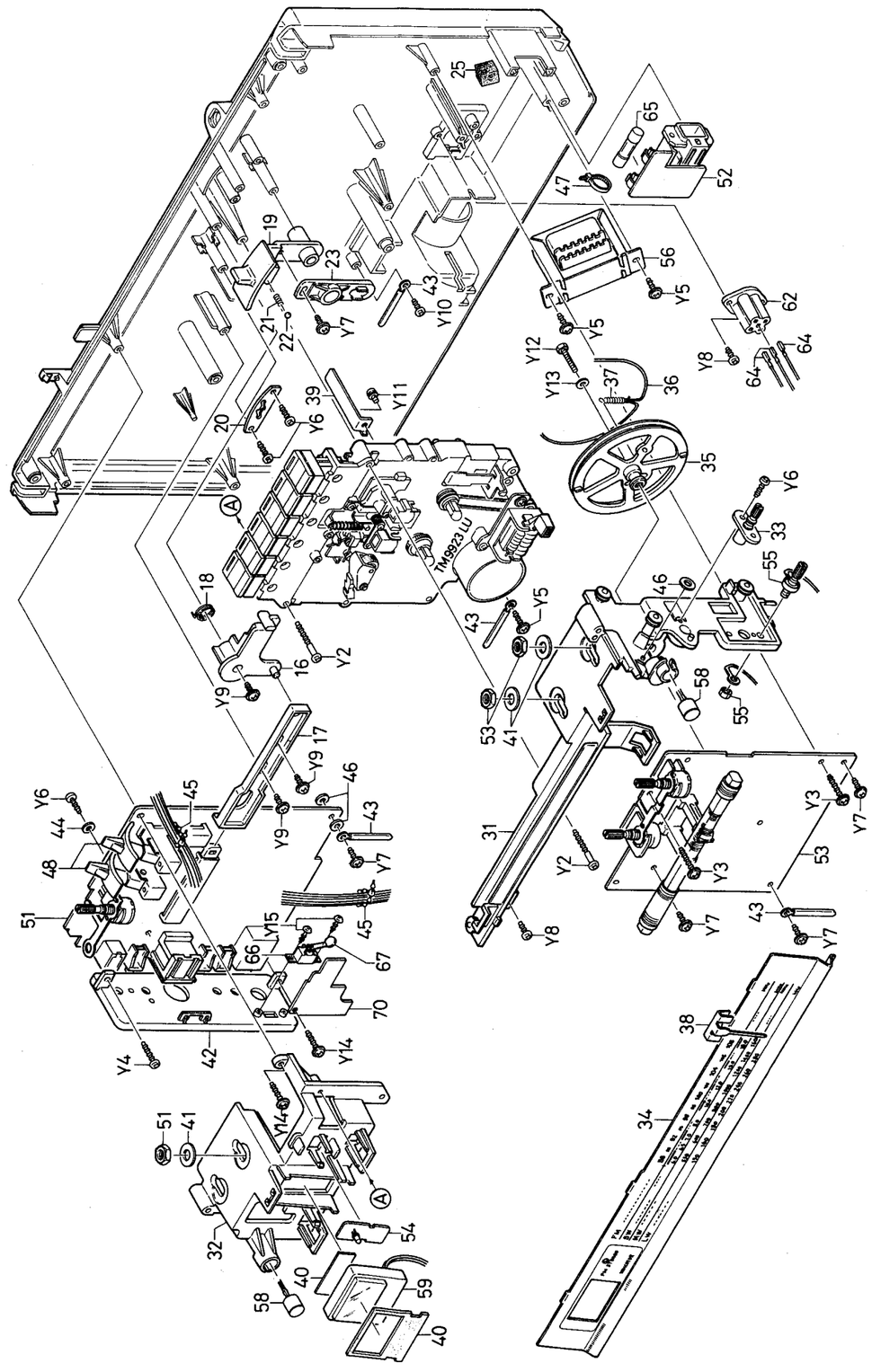
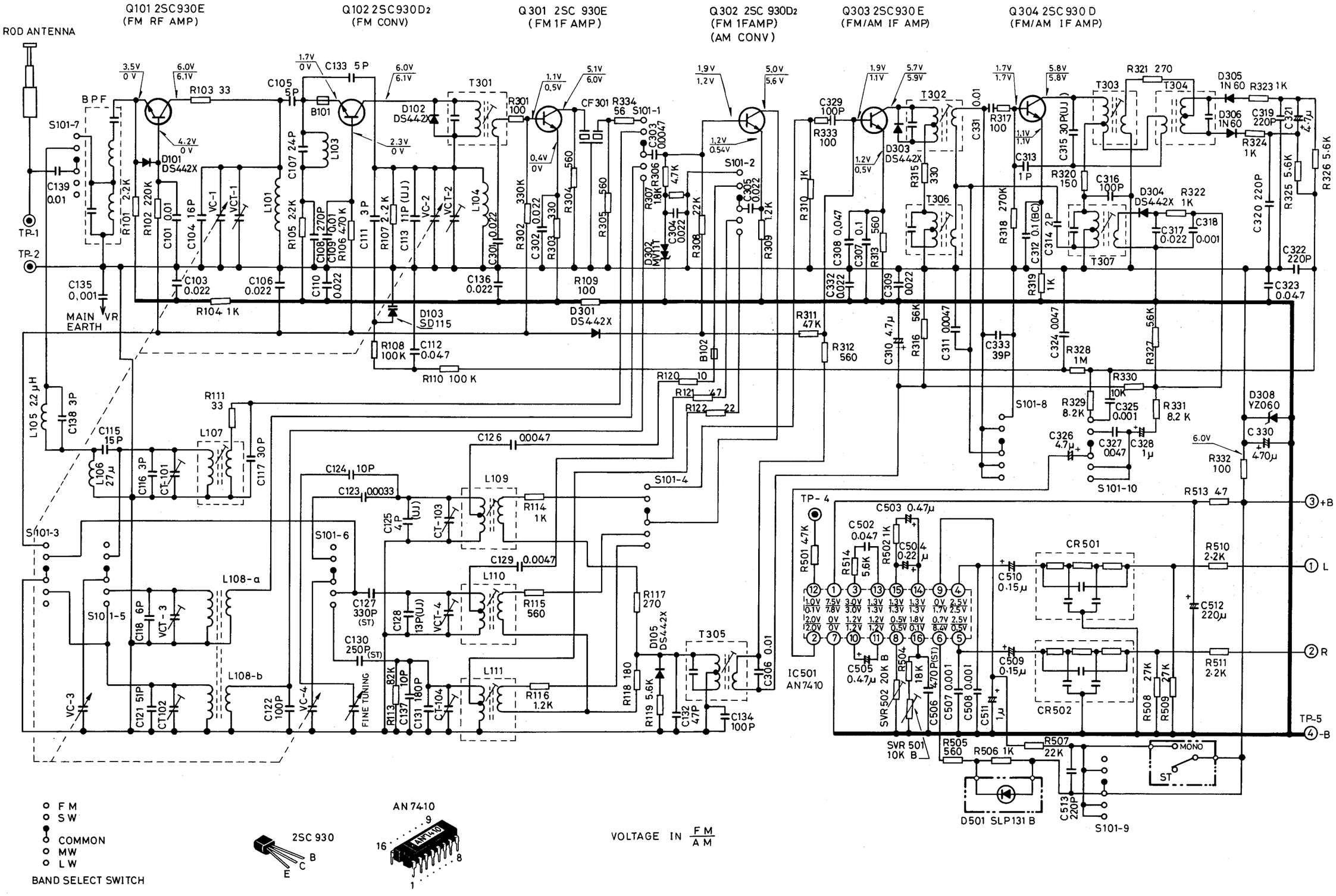
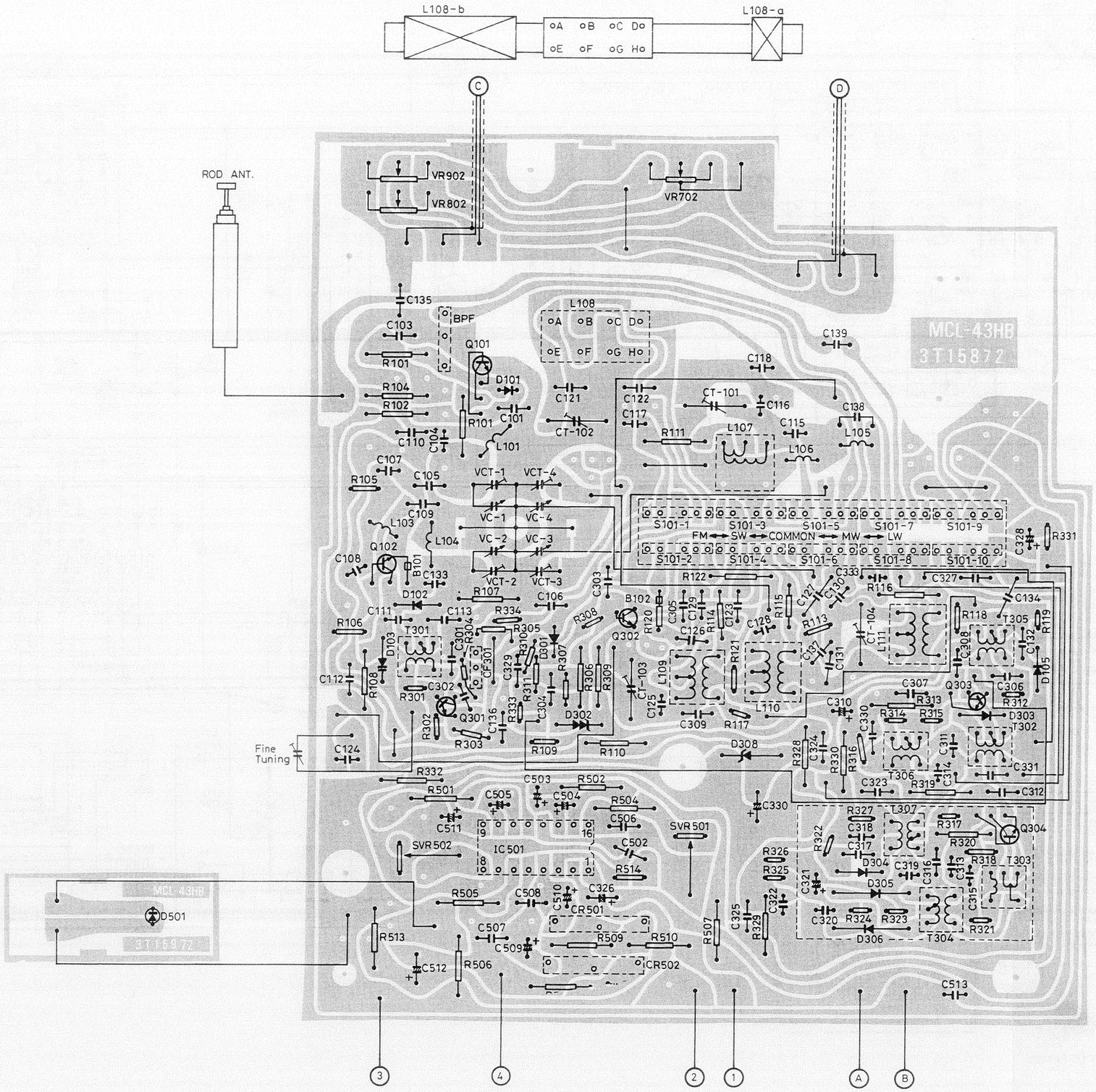


SCHEMATIC DIAGRAM (TUNER)




L108-b
L108-a
oA oB oC Do
oE oF oG Ho
C
D
ROD ANT.
VR902
VR802
VR702
C135
BPF
C103
R101
Q101
D101
L108
C139
MCL-43HB
3T15872
C118
R104
R102
C121
C122
CT-101
C116
C138
C101
R101
C117
C115
C110
C104
CT-102
R111
L107
L105
L101
L106
C107
R105
C105
VCT-1
VCT-4
C109
VC-1
VC-4
L103
L104
VC-2
VC-3
Q102
B101
C108
C133
VCT-2
VCT-3
S101-1
S101-3
S101-5
S101-7
S101-9
FM SW COMMON MW LW
S101-2
S101-4
S101-6
S101-8
S101-10
C328
R331
R122
C333
C303
R107
C106
D102
C111
C113
R334
B102
C305
C129
C127
C130
R116
C327
C134
R106
T301
R305
R308
Q302
R120
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D105
R301
C302
CF301
R311
R309
C125
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R117
C310
R314
R315
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D303
T302
Fine Tuning
C124
Q301
C136
R333
C304
D302
R302
R303
R109
R110
D308
C330
C324
R328
R330
R316
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C507
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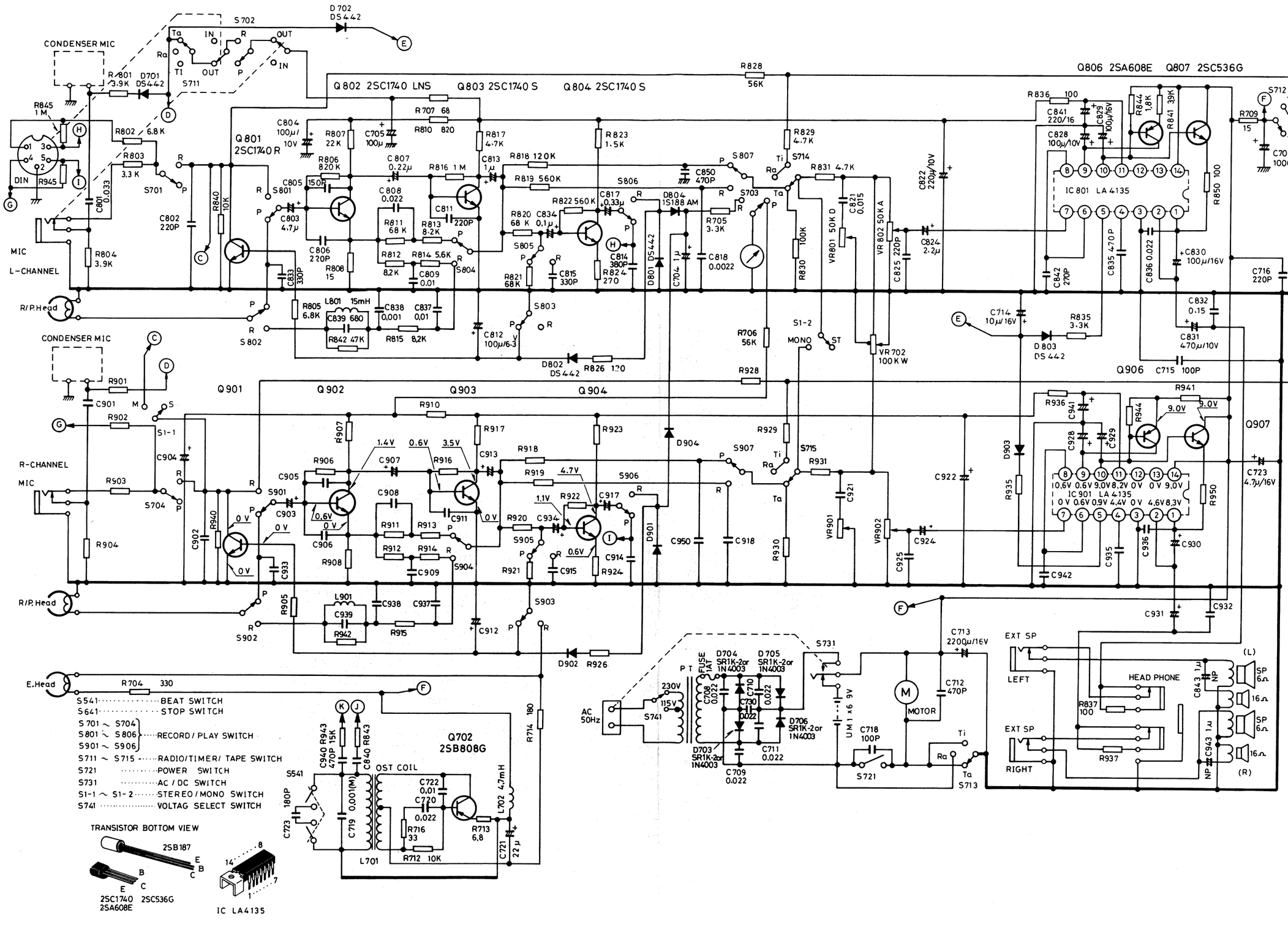
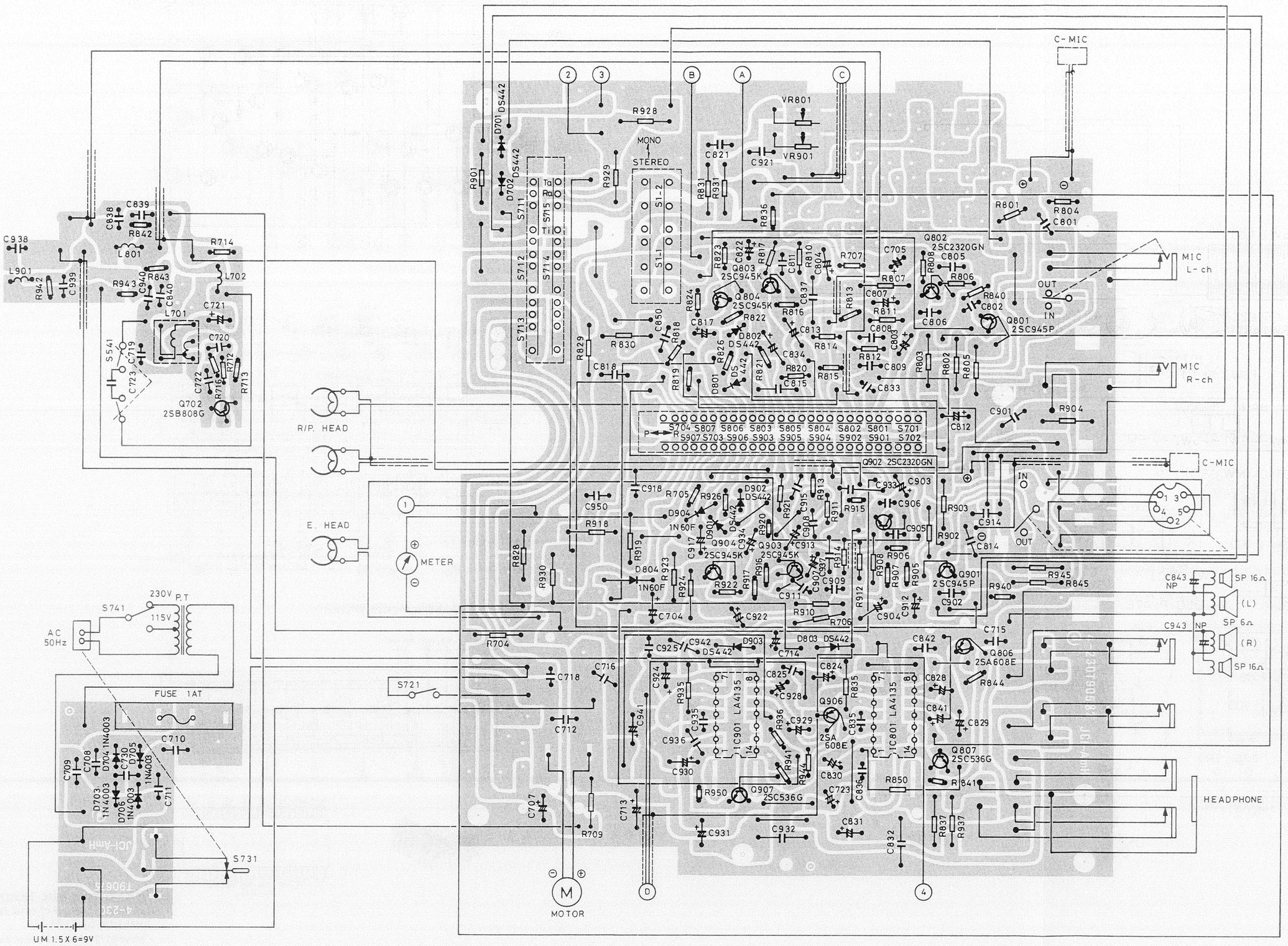
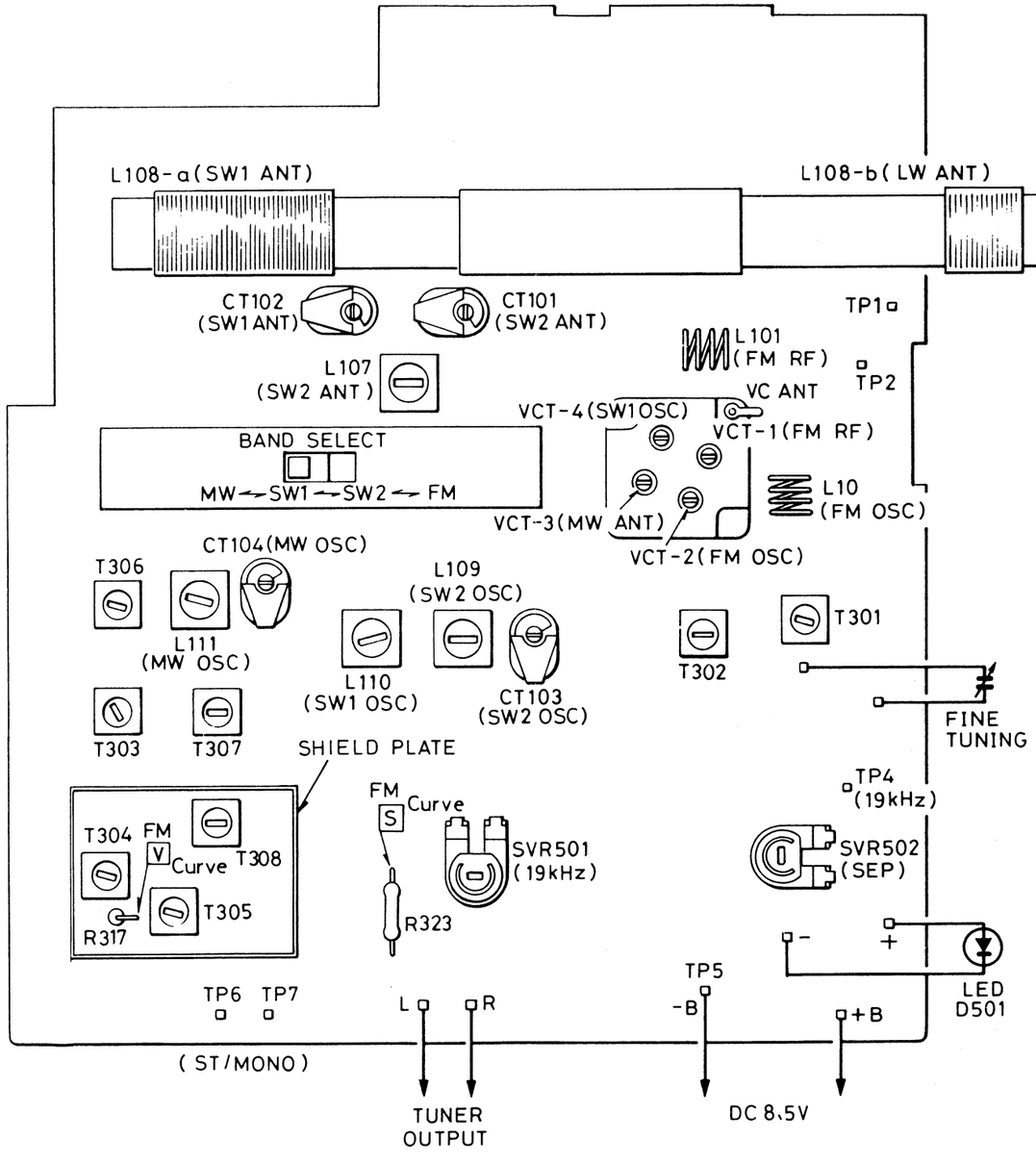
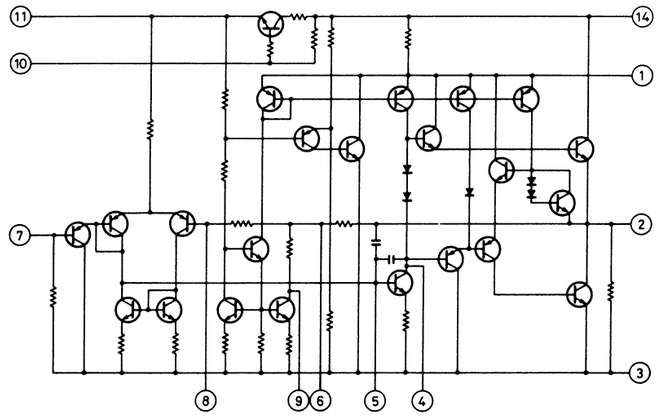

CONDENSER MIC
S702
D702 DS442
R801 3.9K
D701 DS442
S711
R845 1M
R802 6.8K
R803 3.3K
S701
DIN
R945
C801 0.033
C802 220P
R804 3.9K
MIC
L-CHANNEL
R/P Head
R840 10K
Q801 2SC1740 R
C804 100µ/10V
R807 22K
C705 100µ
R806 820K
C805 150P
C807 0.22µ
C808 0.022
R811 68K
R813 8.2K
R812 8.2K
R814 5.6K
C809 0.01
C806 220P
R808 15
C803 4.7µ
S801
S802
C833 330P
R805 6.8K
L801 15mH
C839 680
R842 47K
C838 0.001
C837 0.01
R815 8.2K
Q802 2SC1740 LNS
Q803 2SC1740 S
Q804 2SC1740 S
R707 68
R810 820
R817 4.7K
C813 1µ
C811 220P
R818 120K
R819 560K
R820 68K
C834 0.1µ
R821 68K
C815 330P
S805
S803
C812 100µ/6.3V
D802 DS442
R826 120
R822 560K
C817 0.33µ
S806
C814 380P
R824 270
D801 DS442
D804 1S188 AM
C704 1µ
R823 1.5K
R828 56K
R706 56K
R928
S1-2
MONO
ST
VR 702 100K W
C850 470P
S807
S714
S703
R705 3.3K
R829 4.7K
R831 4.7K
R830 100K
C821 0.015
VR801 50K D
VR802 50K A
C825 220P
C822 220µ/10V
C824 2.2µ
C818 0.0022
Q806 2SA608E
Q807 2SC536G
L. SIGNAL
R836 100
C841 220/16
C828 100µ/10V
C829 100µ/16V
R844 1.8K
R841 39K
IC 801 LA 4135
R850 100
S712
R709 15
C707 1000µ/16V
+B
-B
C716 220P
C830 100µ/16V
C835 470P
C836 0.022
C842 270P
C832 0.15
C831 470µ/10V
C714 10µ/16V
R835 3.3K
D803 DS 442
Q906
C715 100P
R. SIGNAL
CONDENSER MIC
R901
C901
R902
S1-1
R-CHANNEL
MIC
R903
S704
R904
C904
C902
R940
S901
C903
C933
R/P Head
S902
R905
L901
C939
R942
C938
C937
R915
S903
C912
D902 R926
Q901
Q902
Q903
Q904
R910
R907
R906
C905
C907
R916
R917
C913
R918
R919 4.7V
C906
C908
R911
R913
R912
R914
C909
S904
S905
R908
R920
C934
R922
C917
C914
R924
C915
R921
R923
D904
S907
S906
S715
R929
R931
D901
C950
C918
R930
VR901
C921
VR902
C924
C925
C922
R935
D903
R936
C941
R941
9.0V
R944
C928
C929
Q907
IC 901 LA 4135
0V 0.6V 0.9V 4.4V 0V 4.6V 8.3V
0.6V 0.6V 9.0V 8.2V 0V 0V 9.0V
R950
C935
C936
C930
C942
C723 4.7µ/16V
C931
C932
F
EXT SP
LEFT
RIGHT
HEAD PHONE
R837 100
R937
C843 1µ
NP
SP 6.5
16Ω
(L)
(R)
C713 2200µ/16V
C712 470P
M
MOTOR
C718 100P
S721
Ti
Ra
Ta
S713
S731
AC 50Hz
S741
230V
115V
PT
FUSE 1AT
D704 SR1K-2or 1N4003
D705 SR1K-2or 1N4003
D706 SR1K-2or 1N4003
D703 SR1K-2or 1N4003
C708 0.022
C710 0.022
C730 0.022
C711 0.022
C709 0.022
UM1 x6 9V
E.Head
R704 330
S541 ..... BEAT SWITCH
S641 ..... STOP SWITCH
S701 ~ S704
S801 ~ S806 ..... RECORD / PLAY SWITCH
S901 ~ S906
S711 ~ S715 ..... RADIO/TIMER/ TAPE SWITCH
S721 ..... POWER SWITCH
S731 ..... AC / DC SWITCH
S1-1 ~ S1-2 ..... STEREO / MONO SWITCH
S741 ..... VOLTAG SELECT SWITCH
TRANSISTOR BOTTOM VIEW
2SB187
2SC1740 2SC536G
2SA608E
IC LA4135
Q702 2SB808G
OST COIL
C940 R943 470P 15K
C840 R843
S541
180P
C723
C719 0.001(M)
C722 0.01
C720 0.022
R716 33
R712 10K
L701
R713 6.8
L702 4.7mH
C721 22µ
R714 180


C-MIC
MIC L-ch
MIC R-ch
C-MIC
HEADPHONE
R/P. HEAD
E. HEAD
METER
MOTOR
MONO
STEREO
VR801
VR901
Q802 2SC2320GN
Q803 2SC945K
Q804 2SC945K
Q801 2SC945P
Q902 2SC2320GN
Q904 2SC945K
Q903 2SC945K
Q901 2SC945P
Q906 2SA608E
Q806 2SA608E
Q807 2SC536G
Q907 2SC536G
Q702 2SB808G
IC901 LA4135
IC801 LA4135
SP 16Ω (L)
SP 6Ω (R)
SP 16Ω
230V
115V
P.T
AC 50Hz
FUSE 1AT
S741
S721
S731
S541
UM 1.5X6=9V
OUT
IN

PARTS LOCATION

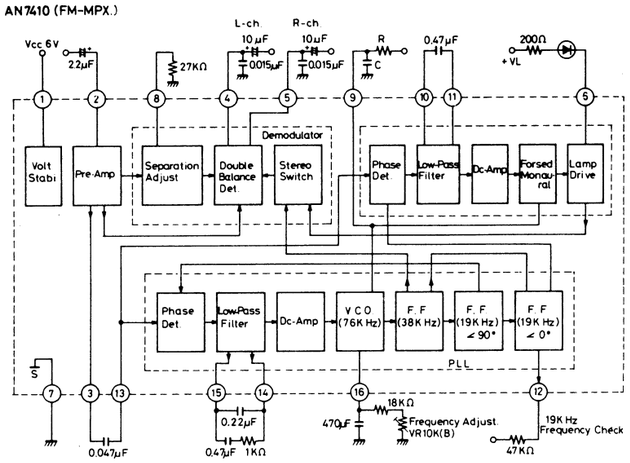


IC CIRCUIT CONSTRUCTION

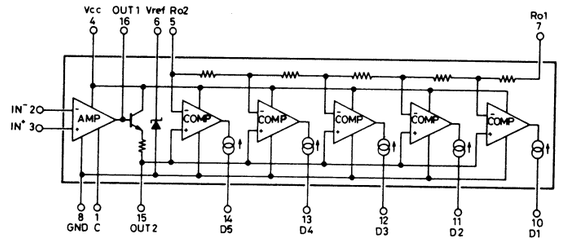


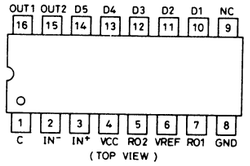
LA4135S

AN7410 (FM-MPX.)



LB1405 (LEVEL METER DRIVER)





SANYO ELECTRIC TRADING CO., LTD.
33, Hiyoshi-cho 2-chome, Moriguchi-shi,
Osaka-fu, 570 JAPAN

May/'81/2000 SI Printed in Japan

MODIFICATION NOTICE

CASSETTE RECORDER

SANYO

M 1950 Series	M 9922 Series
M 7700 Series	M 9923 Series
M 7800 Series	M 9924 Series

Date Sep, 9, 1983 Issued by _____

The following corrections should be made in the SERVICE MANUALS and PARTS (PRICE) LIST.

Modification Notice WM-10554, issued on July, 25, 1983, has now been superseded by this sheet WM-10667. Be sure to destroy the hitherto WM-10554 to avoid any possible confusion arising in future.

We can no longer be enable to supply you with IC LA4135 used in amplifier PCB because its production is discontinued.

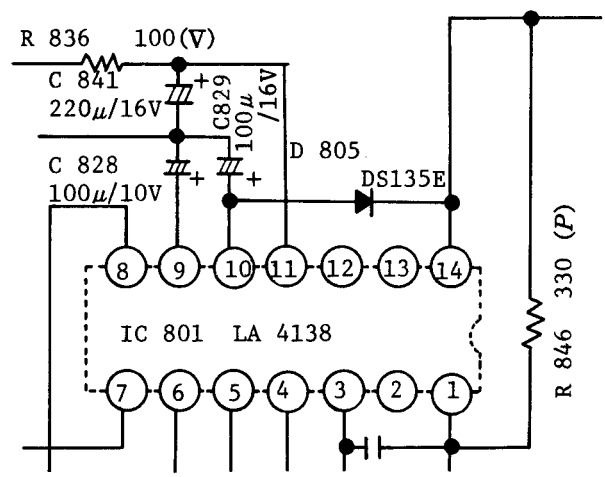
1. Use the IC LA4138 as a substitute for IC LA4135 being used in the following models:
   (Incidentally, a change in the circuit is not required for this substitution.)

M-1950F (General), M-1950FG (UK), M-1950FE (Europe) - M-1950H (General), M-1950F (General)
M-7700 (USA), M-7700 (Canada), M-7700F (Europe) M-7700F (Australia), M-7700FB (South Africa),
M-7700F (General), M-7700FW (General), M7700K (General) M-7700LE (Europe), M-7700LG (UK)
M-7800 (USA), M-7800K (Australia), M-7800KB (South Africa), M-7800F (General), M-7800K (General),
M-7800MK (General), M-7800LE (Europe), M-7800LG (UK)

2. Use the IC LA4138 as a substitute for IC LA4135 being used in the following models:
   (A change in the circuit is also required simultaneously with this substitution, however.)

M-9922 (USA), M-9922K (Australia), M-9922K (South Africa), M-9922K (General), M-9922RK (General),
M-9922RK (South Africa), M-9922LU (Europe), M-9922LG (UK)
M-9923(USA), M9923 (Canada), M-9923LU (Europe), M-9923 (UK)
M-9924 (USA), M-9924 (Canada), M-9924K (Australia), M-9924K (General), M-9924LU (Europe)

IC801, 901	IC, LA 4135	Removed
Q806, 906	Tr, 2SA608	
Q807, 907	Tr, 2SC536	
R841, 941	Re, 3.9K ohm	
R844, 944	Re, 1.8 K ohm	
R850, 950	Re, 100 ohm	
IC801, 901	IC, LA 4138	Added
D805, 905	Di, DS135E	
R846, 946	Re, 330 ohm	



Above schematic diagram shown only the left channel.

REASON FOR MODIFICATION

A ..... Standardization	C ..... Improvement of reliability	E ..... Miss print	G .....
B ..... Change of materials	D ..... Improvement of performance	F ..... Miss register	

Printed in Japan 14000

SANYO ELECTRIC TRADING CO., LTD.
OSAKA, JAPAN

WM- 10667

MODIFICATION NOTICE

CASSETTE RECORDER

SANYO

M 1950 Series	M 9922 Series
M 7700 Series	M 9923 Series
M 7800 Series	M 9924 Series

Date Sep, 30, 1983 Issued by _____

The following corrections should be made in the SERVICE MANUALS and PARTS (PRICE) LIST.

Modification Notices WM-10554 (issued on July, 25, 1983), and WM-10667 (issued on September, 9, 1983) have now been superseded by this sheet WM-10830.
Be sure to destroy the hitherto WM-10554 and WM-10667 to avoid any possible confusion arising in future.

We can no longer be enable to supply you with IC LA4135 used in amplifier PCB because its production is discontinued.
1. Use the IC LA4138 as a substitute for IC LA4135 being used in the following models:
(Incidentally, a change in the circuit is not required for this substitution.)

M-1950F (General), M-1950FG (UK), M-1950FE (Europe), M-1950H (General), M-1950F (General)
M-7700 (USA), M-7700 (Canada), M-7700F (Europe), M-7700F (Australia), M-7700FB (South Africa),
M-7700F (General), M-7700FW (General), M-7700K (General), M-7700LE (Europe), M-7700LG (UK)
M-7800 (USA), M-7800K (Australia), M-7800KB (South Africa), M-7800F (General), M-7800K (General),
M-7800MK (General), M-7800LE (Europe), M-7800LG (UK)

M-9922 (USA), M-9922K (Australia), M-9922K (South Africa), M-9922K (General), M-9922RK (General),
M-9922RK (South Africa), M-9922LU (Europe), M-9922LG (UK)
M-9923 (USA), M9923 (Canada), M-9923LU (Europe), M-9923 (UK)
M-9924 (USA), M-9924 (Canada), M-9924K (Australia), M-9924K (General), M-9924LU (Europe)

INTERCHANGEABLE NOT INTERCHANGEABLE	Serial No. Chassis No.	Effective from
Q'ty of initial production before modification.	Identification of modified unit.	

REASON FOR MODIFICATION
A ..... Standardization C ..... Improvement of reliability E ..... Miss print G .....
B ..... Change of materials D ..... Improvement of performance F ..... Miss register

Printed in Japan 14000

SANYO ELECTRIC TRADING CO., LTD.
OSAKA, JAPAN